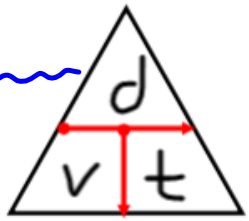
# More Graphing

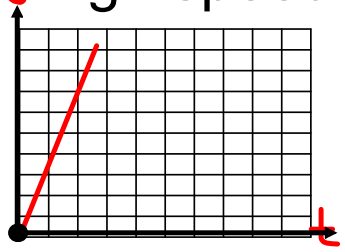
Name:



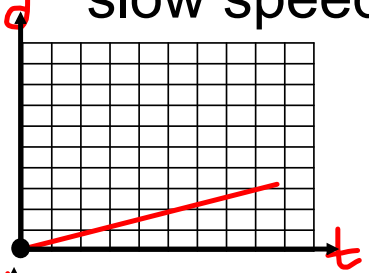

## Distance versus Time graph

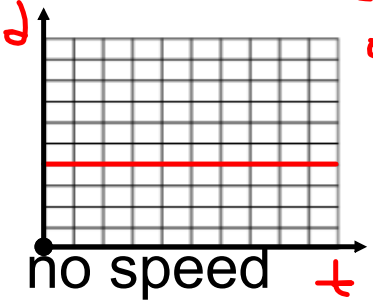
Slope=speed

d high speed



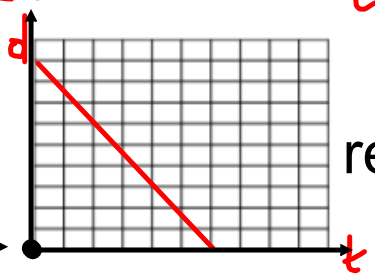

d slow speed



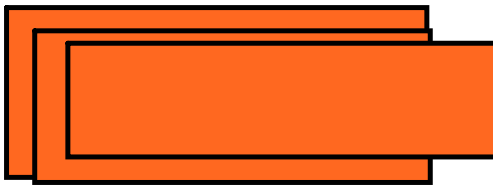




no speed

(not moving)

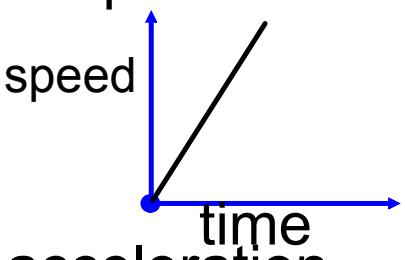


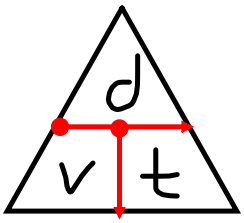

returning to start



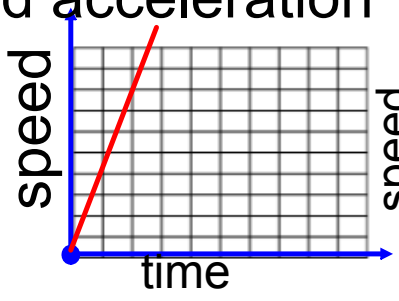
What does the slope of a speed time graph represent?

Speed versus time

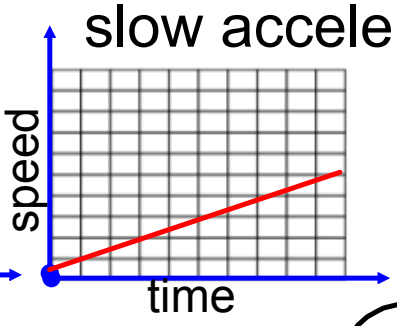


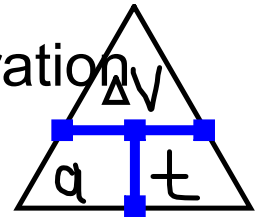



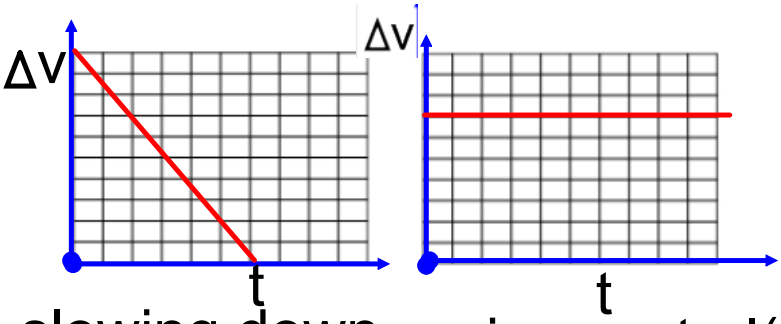

rapid acceleration




slow acceleration




slowing down

cruise control(zero acceleration)

slope of a speed time graph= ?

acceleration

## Another Example | Acceleration with $V_i$ and $V_f$

A bus with an initial speed of 12 m/s accelerates at 6.2 m/s² for 15s. What is the final speed of the bus?

① Set up

$\Delta V = ?$

$12\ m/s = V_i$

$a = 6.2\ m/s^2$

$t = 15\ s$

② Write formula $\Delta V = a \times t$

$\Delta V = 6.2 \frac{m}{s^2} \times 15\ s$

$\Delta V = 93 \frac{m}{s}$



③ Fill numbers into formula

④ Use $\Delta V = V_f - V_i$ to find speed at start or end.

$93 \frac{m}{s} = V_f - 12\ m/s$ $+12\ m/s$ $+12\ m/s$

$105 \frac{m}{s} = V_f$

$1.05 \times 10^2\ m/s = V_f$

$1.1 \times 10^2\ m/s = V_f$

OR

$110\ m/s$

$12\ m/s \xrightarrow{15\ s} 110\ m/s$